

# PIP-II Linac Complex Requirements and Specification Review Charge

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WBS 121.06.05

TeamCenter Document Number: ED0011070

## Revision History

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Revision	Date Release	Originator: Role:	Description of Change
0	28 October 2019	S. Dixon	Initial Release

*Revision control is managed via Fermilab Teamcenter Workflows.*

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## 1. Introduction

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This review of the PIP-II Linac Complex (WBS 121.06.05) will review the current state of the design to ensure that the appropriate requirements have been addressed.

The Linac Complex is comprised of the following components:

1. The High Bay Building (HBB) includes the construction package including the below grade and above grade structures, mechanical, electrical, conveying systems and related support systems to house the Warm Front-End components and related infrastructure;
2. The Linac Tunnel (LT) that includes the work required to install the below grade beamline enclosure to accommodate the beamline components and related support infrastructure;
3. The Linac Gallery (LG) includes the above grade service building and associated infrastructure to support the technical equipment for the beamline components;
4. The Beam Transfer Line (BTL) that includes the work required to install the below grade beamline enclosure from the downstream end of the LT to a point approximately 50 feet east of the existing Main Ring tunnel. The BTL will accommodate the beamline components, beam absorber and related support infrastructure.

The PIP-II Linac Complex includes the elements of work normally included in conventional construction such as earthwork, utilities, structural concrete, structural steel, architectural cladding, finishes, roofing, plumbing, process piping, heating ventilation and air conditioning (HVAC), fire protection, fire detection, lighting and electrical.

The outcome of the review is to ensure that the documented requirements have been incorporated into the design at an appropriate level for this stage of the project development.

## 2. Review Agenda

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Location: **AD/Bungalow – Linac North**

Date: **November 19, 2019**

Time: **10:00 am to 11:40 am**

Indico Site: <https://indico.fnal.gov/event/22297/>

Participants:

- A. Martinez, PIP-II
- G. Wu, APS-TD
- E. Harms, AD
- F.G. Garica, AD
- I. Kourbanis, AD
- E. Huedem, FESS/E
- R. Wielgos, FESS/E
- S. Dixon, PIP-II

Agenda:

1. Introduction – S. Dixon
2. Linac Complex Overview – S. Dixon
3. Discussion of Requirements – All
4. Close Out – S. Dixon

**3. Review Charge Statement**

An requirements and specification review (RSR) is held prior to establishing a subcontract with an architectural/engineering firm to develop detailed and final design documents. The RSR ensures alignment between the overall scientific goals and functional and technical requirements including those imparted by interfacing systems.

The review committee is requested to review the requirements and specifications for the Linac Complex to ensure alignment between the scientific goals and drivers, and functional and technical requirements. The review should address the following:

- Project level requirements
- System level requirements
- Requirement margins
- Operations requirements
- Reliability requirements
- Traceability to functional requirements
- Requirements validation processes

The outcome of the review is to ensure that the documented requirements have been incorporated into the design at an appropriate level for this stage of the project development.

The Functional Requirements Specification, Technical Requirements Specification for the work have been placed in the TeamCenter document and included at the Indico site.

**4. Acronyms**

List and define any relevant acronyms as necessary.

A/E	Architect/Engineer
BTL	Beam Transfer Line
FESS	Facilities Engineering Services Section
FRS	Functional Requirements Specification
HBB	High Bay Building
LC	Linac Complex
LG	Linac Gallery
LT	Linac Tunnel

PDR	Preliminary Design Review
RSR	Requirements and Specifications Review
TRS	Technical Requirements Specification

## 5. Reference Documents

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Listed below are the relevant documents referred to in the Review Charge Statement

1	PIP-II Project Review Plan (PIP-II-doc-1542)
2	Functional Requirement Specification (ED0008043)
3	Technical Requirement Specification (ED0010906)
4	Room Data Sheet (ED0009544)

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